

## Science Content Standards:

Physics 4e: Students know radio waves, light, and X-rays are different wavelength bands in the spectrum of electromagnetic waves whose speed in a vacuum is approximately  $3 \times 10^8$  m/s (186,000 miles/second).

Physics 5d: Students know the properties of transistors and the role of transistors in electric circuits.

Physics 5i: Students know plasmas, the fourth state of matter, contain ions or free electrons or both and conduct electricity.

Chemistry 1a: Students know how to relate the position of an element in the periodic table to its atomic number and atomic mass.

Chemistry 11b: Students know the energy release per gram of material is much larger in nuclear fusion or fission reactions than in chemical reactions. The change in mass (calculated by  $E = mc^2$ ) is small but significant in nuclear reactions.

Chemistry 11c: # Students know some naturally occurring isotopes of elements are radioactive, as are isotopes formed in nuclear reactions.